Structure of Jupiter's Polar Haze

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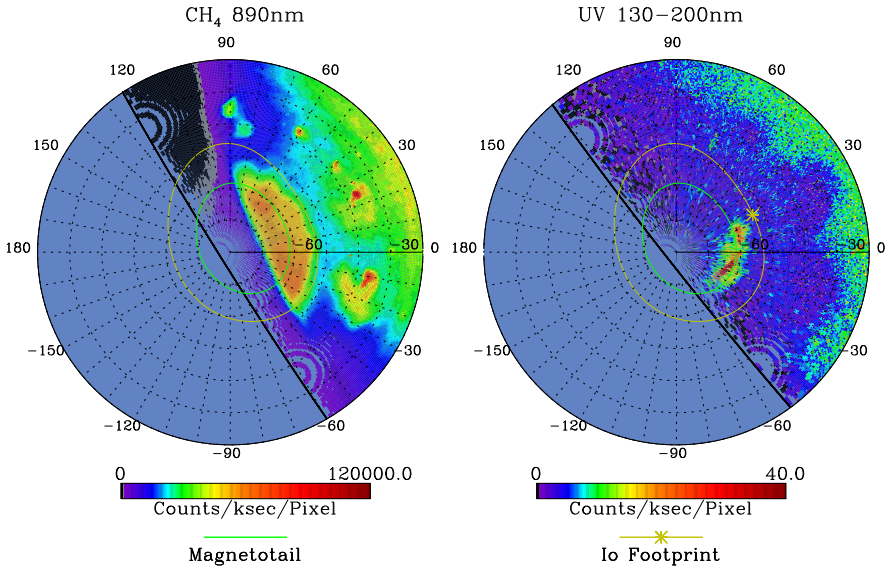
It is thought that the powerful jovian aurora is responsible for producing Jupiter's extensive stratospheric polar hazes. While the aurora is best studied at UV or IR wavelengths, the polar hoods show up strikingly in 8900Å methane absorption band images. Using high-resolution HST WFPC2 images of the southern pole of Jupiter obtained during the Shoemaker-Levy 9 campaign, we will examine the UV auroral and methane-band haze emissions to address 1) whether the aurora is, in fact, capable of producing the polar haze, 2) how the UV and 8900Å hazes are related, 3) the morphologic evolution of the hazes with regard to stratospheric circulation in the polar regions, and 4) what fraction, if any, of the 8900Å emissions are due to thermal emission by aurorally-heated CH_4 (rather than purely reflected sunlight from the aerosols).



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